

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

WHAT IS CLAIMED IS:

1. to 70. (Cancelled)

5 71. (New) A device for supporting an anatomical structure, the
device comprising:

a first body-encircling member;

a second body-encircling member; and

10 at least one actuator connected between the first and
second body-encircling members, the actuator comprising an
inflatable bladder having an asymmetrically elastic wall
wherein the wall constrains the bladder to expand
preferentially along an axis upon inflation such that
inflation of the bladder applies force to force the first
15 and second body-encircling members apart.

72. (New) A device according to claim 1 wherein the bladder
comprises a plurality of transversely-spaced generally-
parallel tubular portions in fluid communication through at
20 least one manifold.

73. (New) A device according to claim 2 wherein the tubular
portions are closely-spaced to provide a palisade-like
arrangement when the bladder is inflated.

25 74. (New) A device according to claim 2 wherein the tubular
portions press against one another and support one another
against deflection in a transverse direction when the
bladder is inflated.

75. (New) A device according to claim 4 wherein the first and second body encircling members are dimensioned to extend around a waist of a person, and wherein the actuator extends through an angle which is less than 270 degrees as measured relative to a central point on a coronal midline of a person wearing the device.

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76. (New) A device according to claim 5 wherein the actuator extends through an angle which is at least 180 degrees as measured relative to the central point on the coronal midline of the person wearing the device.

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77. (New) A device according to claim 6 wherein the bladder expands preferentially in a direction lying substantially in a surface defined between the first and second body-encircling members.

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78. (New) A device according to claim 3 wherein the wall of the bladder has a higher modulus of elasticity on inward-facing sides of the tubular portions of the actuator than on outward-facing sides of the tubular portions of the actuator.

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79. (New) A device according to claim 2 wherein the wall comprises an air-impermeable layer and a guide.

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80. (New) A device according to claim 9 wherein the guide comprises two layers of asymmetrically-elastic material joined at longitudinally-extending seams wherein a high-stretch direction of the material is oriented lengthwise relative to the tubular portions.

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81. (New) A device according to claim 10 wherein a low-stretch direction of the material is oriented circumferentially around the tubular portions.

5 82. (New) A device according to claim 11 wherein the tubular portions are generally cylindrical when the bladder is inflated and wherein portions of the guide that contact the tubular portions are generally cylindrical when the bladder is inflated.

10 83. (New) A device according to claim 2 wherein, when laid flat, the actuator is generally rectangular and has a width in a direction along the body-encircling members that is greater than a height extending between the body-encircling members.

15 84. (New) A device according to claim 13 wherein the tubular portions extend substantially at right angles to the body-encircling members.

20 85. (New) A device according to claim 14 wherein the wall of the actuator in an area on an inner surface of the actuator has a higher modulus of elasticity than that of the wall of the actuator on an area on an outer surface of the actuator.

25 86. (New) A device according to claim 2 wherein the guide constrains the expansion of the tubular portions asymmetrically, thereby causing the actuator to bend when the bladder is inflated.

30 87. (New) A device according to claim 1 wherein the first and second body encircling members are dimensioned to extend around a waist of a person, and wherein the actuator extends through an angle which is less than 270 degrees as measured

relative to a central point on a coronal midline of a person wearing the device.

88. (New) A device according to claim 17 wherein the device is dimensioned to apply unloading force to a lumbar spine of a person, and wherein the actuator does not extend across a front of the person.

5 89. (New) A device according to claim 1 wherein the first and 10 second body encircling members are dimensioned to extend around a waist of a person, the device comprising a first actuator located to be adjacent a first hip of a person wearing the device and a second actuator located to be adjacent a second hip of the person wearing the device.

15 90. (New) A device according to claim 19 wherein the first and second actuators are individually adjustable.

20 91. (New) A method for supporting a body part comprising:
providing a device comprising first and second body-encircling members, an inflatable bladder having an asymmetrically-elastic wall connected between the first and second body-encircling members;
securing the first and second body-encircling members 25 one on either side of the body part to be supported; and
inflating the bladder;
whereby, upon inflation, the asymmetrically-expandable wall causes the bladder to expand preferentially in a direction that forces the first and second body-encircling members apart.

30 92. (New) A method according to claim 21 wherein the bladder comprises a plurality of transversely spaced generally parallel tubular portions and inflating the bladder

comprises allowing the tubular portions to support one another in a closely-spaced palisade-like arrangement.

93. (New) A method according to claim 22 wherein the wall of the
5 bladder has a higher modulus of elasticity on an inward-facing sides of the tubular portions of the actuator than on outward-facing sides of the tubular portions of the actuator and the method comprises, allowing central parts of the tubular portions to bow inwardly during inflation of the
10 bladder.

94. (New) A method according to claim 21 wherein the body part to be supported is a lumbar spine of a person and securing the first and second body-encircling members one on either
15 side of the body part to be supported comprises:

securing the first body-encircling member below the lumbar spine such that the portion of the first and second body-encircling members that is connected to the bladder extends across a back of the person; and,

20 securing the second body-encircling member above the lumbar spine.